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ANNOUNCING FIVE NEW STATE-OF-THE-ART INSTRUMENTS

A TERRIFIC TAPE RECORDING SYSTEM
AN ULTRA-VALUE ULTRA-VIOLET OSCILLOGRAPH
A SUPERB SECONDARY-STANDARD DVM
A TREMENDOUS TRANSFER-FUNCTION ANALYZER
AN OUTSTANDING LAB TAPE RECORDER FAMILY

EMI TECHNOLOGY INC.

is the U.S.-based member of the EMI Limited Group, an international company with more than four decades of achievement in a broad spectrum of high-technology research, development, and manufacturing. The company has combined sales of more than one billion dollars in the fields of electronics, music, and leisure. Its electronics activities range from airborne radar to computerized X-Ray scanning, from color-TV cameras to laboratory instrumentation, and from data-processing peripherals to electronic security systems. One of its many divisions is SE LABS, a major U.K.-based producer of sophisticated analog and digital data products for over 17 years.

THESE FIVE INSTRUMENTS

were designed and produced originally by SE LABS, and have established new standards of quality and performance in the European electronics market, in direct competition with comparable equipment manufactured in the United States and Western Europe. These instruments are now available from EMI Technology which has established a fully staffed, stocked, and equipped analytical instrumentation activity headquarters in Danbury, Connecticut.

EMI TECHNOLOGY INC.
P.O. Box 1264
Danbury, Conn. 06810
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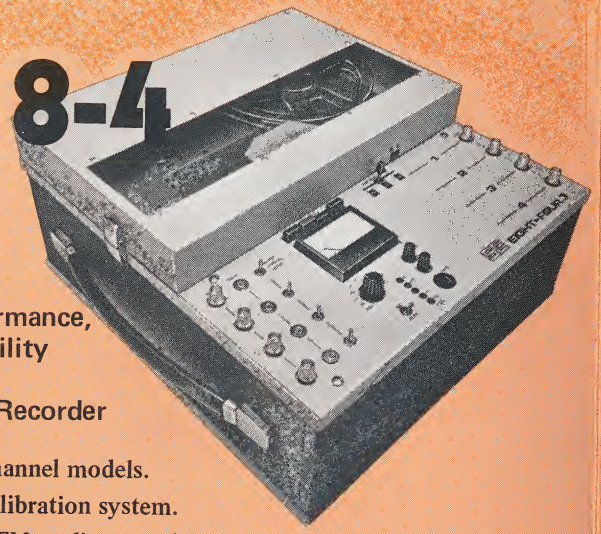
Series 8-4



True Laboratory Performance, and Operational Versatility in a Low-Cost, Portable Multichannel Recorder

- **Four-channel or eight-channel models.**
- **Complete built-in self-calibration system.**
- **Plug-in modules permit FM or direct-analog recording on each channel.**
- **60kHz direct recording bandwidth at 15 ips, DC-10kHz FM bandwidth at 30 ips.**
- **Operation from AC line, external DC, or internal rechargeable batteries.**
- **Tape-speed options offer choice of 3 speeds from 30 to 15/16 ips, with servo-controlled 0.25% accuracy.**

Professional laboratory-grade, multi-channel record/reproduce performance at a remarkably low cost per channel. Available with 4 channels (¼" tape) or 8 channels (½" tape), these portables weigh only 25 and 30 pounds, respectively.

Three selectable tape speeds are provided: either 15 ips plus any two from 7½, 3¾, 1⅞", and $^{15}/_{16}$ ips; or 30, 15, and any one from 7½, 3¾, and 1⅞ ips. A servo-controlled capstan maintains speed accuracy of ±0.25%, with maximum flutter of 0.35% p-p (0.2-2500Hz) at 15 ips. Each channel may be equipped with either FM or direct-analog record/reproduce electronics by plug-in modules. At 15 ips, the direct-recording bandwidth is 60kHz, and the FM bandwidth is DC-10kHz at 30 ips. Optional plug-in preamplifiers provide 100:1 increased FM sensitivity.

Complete built-in calibrator provides checkout, calibration, and monitoring of FM channels, DC/peak AC measurement of inputs, outputs, plus precise signal emulation and power-supply measurement.

Series 7000

The Ultimate in Recording Performance in a Compact Modular Portable

- **First Portable with complete electronics** for 14-channel record *and* reproduce.
- **Built-in calibrator** – no external test gear.
- **Direct Recording to 600kHz.**
- **FM to 40 and 80kHz** (IRIG Intermediate and Wideband Gp. 1).
- **Versions with up to 42 channels.**

New field-portable instrumentation tape recorders with completely modular signal-processing. Direct-record/reproduce bandwidths to 600kHz. PCM signals to 1 megabit/sec; IRIG-compatible FM (Intermediate and Wideband Gp. 1), DC to 80kHz. 14 to 42 channels. Built-in power supplies for AC or DC input. Unique calibrator module implements complete electronics-to-electronics testing, *without* patch leads or external test gear.

Unique balanced-tension system rivals performance of the best laboratory systems, ensures secure, low-flutter recording. 8 standard speeds, 15/16 to 120 ips; capstan can be phase-locked to external speed-reference signal.

Input-channel conditioners operate at all tape speeds without adjustment. All-speed equalizers and filters in the reproduce circuits permit operator to use the tape-speed switch like an oscilloscope time-base control.

Model SE 6150

The Lowest Price Ever in a High-Speed Multi-Channel Oscillographic Recording System!

- **Highly competitive pricing in all capacities and modular combinations.**
- **Writing speeds to 50,000 inches/sec.** (10kHz bandwidth at 1.2 inches deflection!)
- **Up to six modular signal-conditioned/12 direct channels.**
- **Wide range of linear, servo-regulated chart speeds** (0.008 to 40 inches/sec.).
- **Unique optical system self-generates grids, timing/reference/event markers.**

This new ultra-violet-beam oscillographic recorder is hundreds of times faster than ink or thermal recorders, faster and more linear than conventional light-beam designs, yet costs about *half* what you'd pay for comparable light-beam systems.

Up to 6 channels of sensitive, wideband recording – or 12 channels direct. Galvanometer modules are thermostatically controlled at 45°C for maximum stability of sensitivity. Ultraviolet-beam technique permits use of auxiliary shutters, screens, deflectors, and controls that enable the optical system to trace its own grids and timing lines, to control trace and grid intensities, and to add reference and event markers. Timing intervals, 0.01, 0.1, 1, 10, and 100 seconds.

Chart paper is conveniently installed as a complete drop-in spool. Twelve selectable chart speeds range from 0.008 to 39.4 inches/sec. Chart drive linearity is ±3%. Two automatic modes (1 or 2 second intervals) and a continuous mode are provided.

Model SM215

A True Secondary Transfer Standard in the form of a 6½-Digit Autoranging DVM

- **6½-Digit Display**, with autopolarity.
- **Input Impedance**: 100,000MΩ; **Input Current**: 10pA.
- **Stability**: **2PPM** Short term; **11PPM** 3 months and **15PPM**/year — **without recalibration.**
- **High Common-Mode and Noise Rejection.**
- **Linearity significantly better than 1PPM; Resolution 1μV.**

A true secondary standard instrument, ideal for ensuring traceability in calibration and standardization in laboratories and QC/production test. Covers 1μV to 1100VDC in four decade ranges: 1.1, 11, 110, 1100V. 7-digit readout (plus polarity) provides 1μV resolution. Stability 2PPM (24 hours), 11PPM (90 days) and 15PPM/year. Overall accuracy is 0.001% of reading ±0.0001% f.s., for three months, without recalibration.

The instrument achieves its exceptionally high accuracy through a combination of two different A/D conversion techniques: the most-significant decades are digitized by an advanced, ultra-precise inductive potentiometric division system capable of accuracies to 2 parts in 10^8 while the less significant decades are converted by a conventional dual-ramp technique. The SM215 thus provides accuracy and resolution ordinarily found only in standards-laboratory equipment without sacrificing the high CMRR, wide operating range, and flexibility essential for convenient use as a general-purpose, portable DVM. Critical accuracy-determining elements, including the aged, temperature-compensated zener reference with its constant-current source, and the scaling dividers, are housed in thermally stabilized ovens.

Model SM2001A

The Most Convenient, Economical, and Versatile High-Performance Frequency Response Analyzer

- **Frequency Range**: 0.00001 to 999Hz (to 999kHz optionally).
- **Digital Display in Cartesian, Polar, and Log/Polar Modes** (for Nyquist, Bode, or Nicholls plots).
- **Complete Harmonic Analysis.**
- **0.1° Resolution.**

The most convenient and economical of the high-performance class of frequency response analyzers. Employs a digitally synthesized, phase-locked precision signal generator, 0.00001Hz to 999Hz (to 999kHz optionally). Measures and computes response components, in absolute or ratio terms, and displays them in three ways:

- **Cartesian**: Real and imaginary, or in-phase and quadrature, components (for Nyquist plots).
- **Polar**: Modulus and phase angle, or gain and phase in ratio mode. Phase range is 0 to 90° in 0.1° steps, with quadrant identification.
- **Log/Polar**: Referred to 10V (absolute mode), or gain/attenuation in dB referred to generator output (for Bode and Nicholls plots).

Measurement accuracy is ±0.5% of reading ±1 count, displayed on 4-digit panel readouts. The instrument also measures harmonics, and thus constitutes a *complete* frequency-response analyzer. The SM2001A is fully programmable by digital computer or microprocessor, and all readings, ranges, control settings, modes, etc., are available as DTL/TTL BCD outputs.

GET ALL THE DATA

Comprehensive technical literature on any or all of these products is yours for the asking. Sign up, and we'll see that you are kept up to date in the future, too! Just fill in the appropriate boxes on this postage paid card.
Send me complete data on:

- ☐ SE7000 Recorder
- ☐ SE6150 Oscollographic Recorder
- ☐ SE8-4 Tape Recorder
- ☐ SM215 Secondary
- ☐ Standard DVM
- ☐ SM2001A Frequency Response Analyzer

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Check the specs, the unique features, the reasonable pricing, and you'll see why.

Your local EMI sales rep is ready to provide you with *detailed, spec-for-spec proof* of the clear-cut superiority of these state-of-the-art designs.

Use the attached reply card for fast response – or call (203) 744-3500 for *immediate action.*

The Danbury Facility
is staffed to provide a wide range of engineering support services, from comprehensive analyses of systems requirements and compatibility to detailed product documentation.

Instruments are stocked in Danbury to insure prompt delivery. Demonstration equipment is available, for evaluation and verification of system compatibility.

Your local EMI sales rep can arrange for demonstrations, in-plant seminars, visits by EMI product specialists, etc. Use the reply card to turn him on – he's at your service.

Applications Engineering
on any phase of your use of these instruments is always available, before and after purchase.

Because of the modular nature of much of this equipment, literally hundreds of practical variations are available. We invite you to "ask us in" at the earliest stages of system or project planning . . . so that we may help you decide on the particular combination of options, standard modules, and interfaces that will optimize performance, at minimum cost.

Many custom modifications are also available on short, dependable delivery cycles, at moderate cost.

Call, or use the reply card, for prompt, no-obligation applications-[illegible]neering assistance.

Comprehensive Maintenance and Repair Facilities
are maintained in Connecticut and in other regional service centers, to provide both in-warranty and post-warranty service on all these instruments. (All EMI instrumentation carries a full one-year warranty.) These facilities are prepared to perform NBS-traceable, MIL-spec-conforming, certificated calibrations.

Fast turnaround is ensured by large stocks of replacement parts, factory test fixtures and a staff of experienced, factory-trained technicians.

You are cordially invited to visit EMI facilities. Formal facility inspections by QA teams can be arranged on prior notice.

The EMI Group of high-technology companies operates throughout the world, and serves its markets through sales offices in 32 countries, on 5 continents. The newest engineering center is EMI Technology Inc., in Danbury, Connecticut.

Besides the EMI Instrumentation product line described in this announcement, there are many other U.S.-based product lines in the EMI Technology Inc. group. These include: X-ray systems, photomultiplier tubes, image intensifiers, and specialized technical glass components.

4428—3/77. Printed in U.S.A.